

What is claimed is:

1. A baking system, comprising:

a heat pipe including a top surface for receiving a wafer to be baked, the heat pipe to be filled with a predetermined amount of working fluid and having wicks formed on sides and a ceiling thereof for supplying the working fluid;

a heater for heating the top surface by heating the working fluid;

a subsidiary cooling system, which contains a liquid coolant that is to be exchanged with the working fluid from the heat pipe through circulation;

a connection pipe for providing fluid communication between the heat pipe and the subsidiary cooling system to circulate the working fluid and the liquid coolant; and

a control unit, which is installed in the connection pipe, for controlling a flow of the working fluid and the liquid coolant through the connection pipe.

2. The system as claimed in claim 1, wherein the connection pipe

comprises an inlet flow path and an outlet flow path for providing fluid

communication between the heat pipe and the subsidiary cooling system.

3. The system as claimed in claim 1, wherein the connection pipe comprises:

an outlet connection pipe for providing fluid communication from the heat pipe to the subsidiary cooling system; and

an inlet connection pipe for providing fluid communication from the subsidiary cooling system to the heat pipe.

4. The system as claimed in claim 3, wherein the control unit comprises:

an outlet fluid control unit installed in the outlet connection pipe; and

an inlet fluid control unit installed in the inlet connection pipe.

5. The system as claimed in claim 4, wherein the outlet fluid control unit is selected from the group consisting of an automated pump and a valve and the inlet fluid control unit is selected from the group consisting of a valve, an automatic pump, and a manual pump.

6. The system as claimed in claim 3, wherein the control unit comprises:

a first outlet fluid control unit and a second outlet fluid control unit sequentially installed in the outlet connection pipe; and

an inlet fluid control unit installed in the inlet connection pipe.

7. The system as claimed in claim 6, wherein the first outlet fluid control unit is selected from the group consisting of an automatic valve and a manual valve, the inlet fluid control unit is selected from the group consisting of an automatic valve, a manual valve, and a pump, and the second outlet fluid control unit is a pump.

8. The system as claimed in claim 2, wherein the subsidiary cooling system comprises:

a coolant storage tank for storing the liquid coolant, the coolant storage tank having a wick formed therein;

a cooling unit installed at the coolant storage tank for cooling the working fluid supplied from the heat pipe; and

a pressurizing unit for pressurizing the liquid coolant during a process of cooling the top surface.

9. The system as claimed in claim 3, wherein the subsidiary cooling system comprises:

a first coolant storage tank for storing the liquid coolant; and

a first cooling system installed at the first coolant storage tank for cooling the working fluid supplied from the heat pipe.

10. The system as claimed in claim 1, wherein the control unit is selected from the group consisting of a pump and a valve.

11. The system as claimed in claim 9, further comprising a second coolant storage tank in fluid communication with the first coolant storage tank, wherein the first cooling system extends to the second coolant storage tank.

12. The system as claimed in claim 9, further comprising:
a second coolant storage tank in fluid communication with the first coolant storage tank; and
a second cooling system installed at the second coolant storage tank.

13. The system as claimed in claim 11, further comprising:
an intermediate connection pipe for providing fluid communication between the first coolant storage tank and the second coolant storage tank;
and
an intermediate fluid control unit installed in the intermediate connection pipe.

14. The system as claimed in claim 1, further comprising a subsidiary heater installed in the connection pipe between an inlet of the heat pipe and the subsidiary cooling system to heat a fluid flowing through the connection pipe.

15. The system as claimed in claim 9, further comprising a subsidiary heater installed at the first coolant storage tank to heat a fluid supplied into the heat pipe.

16. The system as claimed in claim 9, wherein the working fluid is selected from the group consisting of water, deionized water, acetone, and methyl.

17. A baking system, comprising:

a heat pipe including a top surface for receiving a wafer to be baked and an inlet side and an outlet side, the heat pipe to be filled with a predetermined amount of working fluid and having wicks formed on sides and a ceiling thereof for supplying the working fluid;

a heater for heating the top surface of the heat pipe by heating the working fluid;

a connection pipe, a first end of which is connected to the outlet side of the heat pipe, and a second end of which is connected to the inlet side of the heat pipe;

a cooling unit installed in the connection pipe for cooling the working fluid flowing through the connection pipe; and

a control unit for controlling the working fluid.

18. The system as claimed in claim 17, wherein the cooling unit is installed to wrap around a portion of the connection pipe.

19. The system as claimed in claim 17, wherein the control unit comprises an outlet fluid control unit installed in the connection pipe between the outlet side of the heat pipe and the cooling unit and an inlet fluid control unit installed in the connection pipe between the inlet side of the heat pipe and the cooling unit.

20. The system as claimed in claim 19, wherein the outlet fluid control unit and the inlet fluid control unit are selected from the group consisting of an automatic valve, a manual valve, and a pump.